UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/827,405 | 04/20/2004 | So-young Kim | Q80509 | 2940 |

23373          7590          10/09/2008
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

| EXAMINER |
|---|
| WERNER, DAVID N |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2621 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 10/09/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# DETAILED ACTION

## *Response to Amendment*

Applicant's amendment to the specification has been fully considered.    The rejection of claims 57 and 58 as non-statutory is withdrawn.

## *Response to Arguments*

Applicant's arguments filed 18 September 2008 have been fully considered but they are not persuasive.

### Claims 20-23, 29, 30, 32, 39-41, 47, 48, and 50

Applicant first argues that the Jung reference does not teach a method of determining a "block mode" "depending on whether motion vectors of the first sub blocks are similar", as claimed in claim 20.   In Jung, there are two possible motion compensation block modes: first, a mode in which a "panning motion vector" is used, determined based on a calculation of if at least 30% of the total number of subblocks in a panning block (column 5: lines 17-20) have an identical displacement (column 4: line 36), that is, if they are similar, and second, a specific second subblock motion vector that is the motion vector having a current number of subblocks having an identical motion vector (if a panning motion vector has been determined), or the motion vector having a plurality of identical motion vectors (if a panning motion vector has not been determined), as described in column 4: lines 26-67.  If a threshold number of subblocks does not have an identical displacement, multiplexer 224 selects a value of zero.

Applicant interprets this to mean that this is treated as a panning vector having a displacement of zero, and a zero-magnitude motion vector is compared using a mean absolute difference between a current frame motion-compensated with the zero motion vector and a previous frame with a threshold (pp. 6-7). However, it is respectfully submitted that this is not what the Jung reference recites. Column 5: lines 30-33 of Jung state that vector motion compensator 42 operates "in response to the panning vector", but column 5: lines 23-24 state that the panning motion vector zero indicates "that there is no panning vector". This suggests that the zero output of panning vector detector 30 is not a motion vector having magnitude of zero, but instead a special flag or exception value indicating the non-existence itself of the panning motion vector. (*As an illustration of the difference between a non-existent motion vector and a zero motion vector, consider, for example, the difference between an intra-coded block and a forward-coded predicted block having a motion vector of zero. In the former case, the current block is coded entirely from data from the current time period, with no reference to any other frame signaled at a different time period, while in the latter case, the block is signaled as having no difference between another block at a different time period.*) Motion compensator 42, stated to operate "in response to a panning vector", cannot operate on a **non-existent** panning vector. This, in turn, suggests that motion vector determination unit 40 is, indeed, inactive when there is **no** overall panning vector. In this case, the subblock index bit must be set to indicate that a coded motion vector is a subblock motion vector (column 5: lines 54-57).

However, even considering that the above interpretation is incorrect, and motion compensator 30 produced a zero magnitude motion vector that was processed through motion vector determination unit 40, the choice in multiplexer 28 would be between the zero motion vector and the motion vector having the most identical subblocks, whereas if an overall panning vector was found, the choice in multiplexer 28 would be between the panning motion vector and a second subblock motion vector stored in first latch 214. In this case, the decision of which motion vector may be selected based on the result of the SAD calculation in comparator 48 is still based on an overall similarity of subblock motion vectors. It is noted that claims 20 and 39 do not state that the block mode is **directly** calculated from the similarity of the subblock motion vectors, and so the **indirect** calculation of Jung based on similarity via an SAD calculation is encompassed within the claimed determination of block mode "depending on" similarity.

Considering the two interpretations of Jung, the alleged failure of the final action to meet the requirements of inherency is moot, and that Jung discloses the disputed limitations of claims 20 and 39. Therefore, it is respectfully submitted that the rejection of claims 20 and 39 was proper.

Claims 24, 28, 31, 42, 46, and 49

These claims were not discussed on their own merits, but only as dependent on claims 20 and 39.

Claims 1-19, 25-27, 33-38, 43-45, and 51-58

In Applicant's arguments dated 21 March 2008, it was stated that "Applicants do not acquiesce to [the] interpretation of" claim 1 as "considered equivalent to the method of claims 20 and 24-26 for a bidirectional picture". In the Final Rejection dated 18 July 2008, the examiner stated that this was considered to be a mere general allegation of patentability. Applicant has still not demonstrated how claim 1 is considered non-equivalent to the combined teachings of claims 20 and 24-26 when applied to a bidirectional picture. It was the mere **unsupported** disagreement of the interpretation of claim 1 as equivalent to claims 20 and 24-26 that was, and is, noted.

Next, it is respectfully submitted that for the reasons described with regard to claim 20 above and stated in the 18 July Final Rejection, Jung teaches the claimed limitation of determining a block mode depending on whether two motion vectors are similar, since Jung et al. either presents a choice between two motion vectors, using an SAD to determine the choice, only when subblock motion vectors are determined to have a high degree of similarity, or a choice between two different sets of motion vectors, the sets determined based on similarity of subblock motion vectors.

Therefore, it is respectfully submitted that the rejection of claim 1 was proper.

For the above reasons, it is believed that all rejections of the claims under 35 U.S.C. 103(a) in the 18 July 2008 Final Rejection should be sustained.

/D. N. W./

Examiner, Art Unit 2621


/Mehrdad Dastouri/

Supervisory Patent Examiner, Art Unit 2621